DIVISION OF THE STATE ARCHITECT

A DIVISION OF DGS

DSA 101

March 2006

DSA 101 Overview

- Organizational Structure
- Roles & Responsibilities
- Plan Review Process
- Construction
- Close Out
- Project Inspector Program
- Laboratory Evaluations & Acceptance (LEA) Program

DSA 101 Overview (continued)

- Emergency Operations
- Collaborative Process for Project Development and Review (Pilot with Community Colleges - under development)
- DSA Academy (classes proposed to begin March 2006)
- Certified Access Specialist Program (CASp)
- New Directions
- Resources (Tracker, Project Submittal Guidelines, Publications, Forms, IRs, Circulars, Bulletins, Glossary of Terms, etc)

DSA Organization

- DSA Headquarters located in Sacramento
- Four DSA Regional Offices:
  - Oakland
  - Sacramento
  - Los Angeles
  - San Diego

DSA Offices and the Regions They Serve

DSA Organization – Roles & Responsibilities

- DSA Headquarters
  - Statewide programs
  - Project Inspector certification
  - Training
  - Laboratory approvals
  - Code Development
  - Policies
  - Bulletins
  - Interpretations

DSA Organization – Roles & Responsibilities

- DSA Regional Offices
  - Project plan review and approval
  - Construction oversight
  - Project Inspector approval
  - Project closing

Projects Requiring DSA Review

- Schools:
  - K-12
  - Community Colleges
- Essential Services Buildings:
  - State-owned
  - State-leased
- Accessibility Only Reviews:
  - California State University System
  - University of California System
  - State Buildings and Facilities
  - Other projects utilizing State funding

Projects Requiring DSA Review (continued)

- New Construction
- Additions
- Alterations to existing school buildings and facilities if the project cost exceeds $30,400 (amount adjusted annually)
- Relocations of Modular Buildings
- Reconstruction – the repair of damage to an existing certified school building such as fire damage
- Rehabilitation – retrofitting an existing non-conforming building

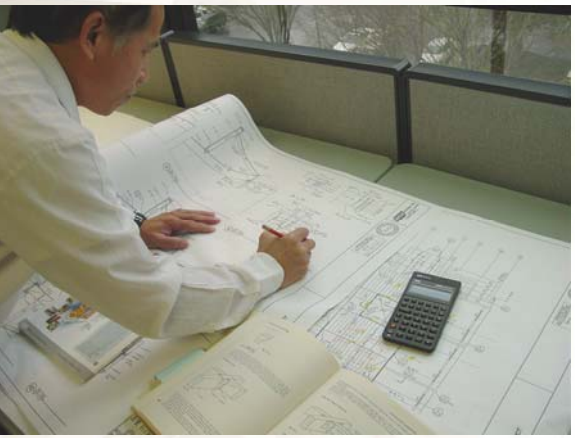
Projects Requiring DSA Review (continued)

- Miscellaneous Structure and Facilities
  - Light poles 35 feet and higher
  - Retaining walls 4 feet and higher
  - Ballwalls 6 feet and taller
  - Signs and scoreboards 8 feet and higher above grade
  - See DSA website and T24, Part 1, Section 4-314 for a more complete list
- If uncertain, contact DSA Regional Office

Applicable Laws and Regulations

- Statutes – Ed. Code Sec. 17280 (Field Act – K-12)
- Statutes – Ed. Code Sec. 81130 (Field Act – Community College)
- Govt. Code Sec. 4450 (Accessibility)
- Regulations – Title 24 Parts 1-12
  - Part 1 - Administrative
  - Part 2 - Building Code
  - Parts 3, 4, 5, 6 – Electrical, Mechanical, Plumbing & Energy Codes
  - Part 9 - Fire Code

Scope of DSA's Review



- Review of design for compliance with building regulations for:
  - Structural Safety (SS)
  - Fire & Life Safety (FLS)
  - Accessibility (AC)
  - Energy
  - Mechanical, Electrical, and Plumbing (MEP) (Future consideration)
- Construction documents must show ALL work (mechanical, electrical, and plumbing)

DSA's Plan Review & Approval of District Construction Projects

STEP 1:
Preliminary Review for Large Projects

- Recommended – not required
- Should take place early in the design phase during design development
- Architect contacts the DSA Regional Office to schedule
- Identify design problems prior to completion of plans – *saves time!*

STEP 2:
Submitting Plans to DSA

- Complete plans & specifications (3 sets)
- Geologic Hazards Report & Soils Report
- Structural Calculations
- Site drawing signed by local fire authority approving fire access, gates, fire flow, and hydrants
- Site plan to show “Path of Travel” for site and building accessibility

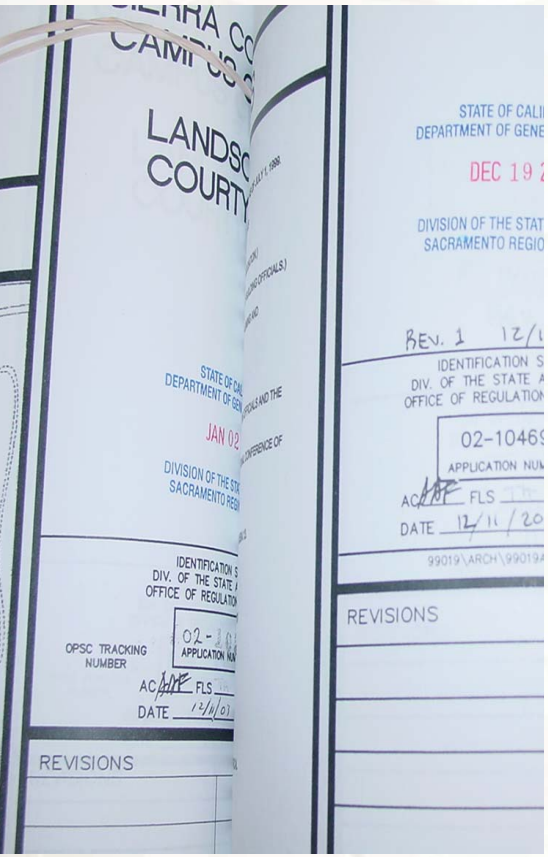
STEP 2:
Submitting Plans to DSA (continued)

- Energy compliance documentation
- DSA Application Form (DSA-1)
- Fees - based on estimated construction cost

STEP 3:
DSA's Intake Review

- DSA verifies that plans are complete
- DSA Application number assigned by DSA
- DSA determines review by "in-house" reviewer or consultant
- District and Architect notified by email "Notice of Progress" indicating:
  1. Project's Application number
  2. Anticipated date review will start
  3. Referral to TRACKER (on website) for monitoring project status

STEP 4:
Plan Review



- Plans are reviewed in order received
- 3 concurrent reviews are conducted:
  1. Structural - Structural Engineer
  2. Fire & Life Safety - FLS Officer
  3. Accessibility - Access Architect
- Plans reviewed by first available plan reviewer (for all three disciplines)

STEP 5:
Reviewed Plans Returned to Architect

- Each of three “checksets” (SS, FLS, AC) returned to Architect when completed
- “TRACKER” indicates status of each review (SS, FLS, AC) including when review is complete and returned to the Architect

STEP 6: Design Professional Team Review of Checkset

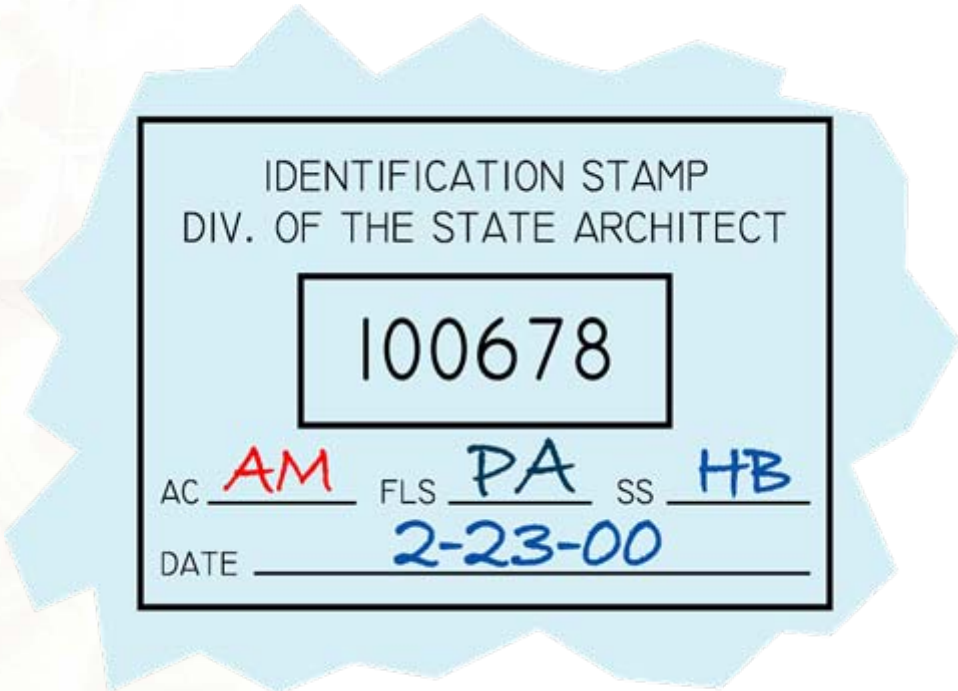
- Architect coordinates Design Professional Team review of DSA comments
- Design Professional Team makes needed revisions to plans and supporting documents
- Architect schedules a “backcheck” appointment at DSA Regional Office

STEP 7:
"Backcheck" and Approval of Plans

- Architect and consultants bring amended drawings and checksets to backcheck
- Architect and engineers must provide experienced staff at the backcheck
- DSA staff reviews drawings and 3 checksets with the architect & engineers

STEP 8:
Stamping Plans & Specs

- When backcheck is done, SS, FLS, AC initial & date DSA Identification Stamp



STEP 9:
Approving Plans & Specs

- Architect submits a record set of plans and specifications to DSA
- Once record set is received, DSA issues an Approval Letter
- The date of the Approval Letter is the official DSA plan approval date

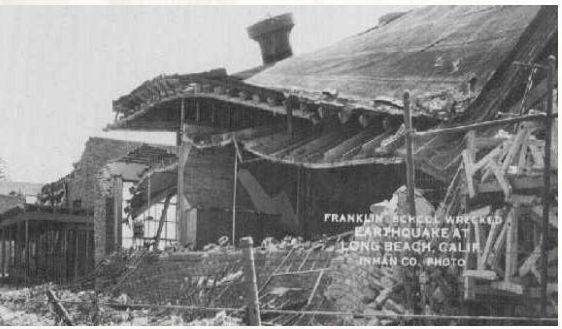
Additional Processes for Plan Review

- Rehabilitation of Existing Buildings
- Essential Services Buildings
- Modular School Buildings

Rehabilitation of Existing Buildings to Public Schools

- "The evaluation and retrofit of an existing non-conforming building to bring the building, or portion thereof, into full compliance with the safety standards of the currently effective regulations."

Rehabilitation and the California Building Code



- Code Provisions Ensure Protection of Life and Property utilizing:
  - Performance based design analysis methods
  - Collaborative development of project design criteria
  - Existing materials assessment
  - Comprehensive plan review
  - Continuous construction inspection

Rehabilitation and the California Building Code (continued)

- Code provisions ensure compliance for:
  - Structural safety
  - Fire and Life safety
  - Access
  - Mechanical, Plumbing and Electrical systems
  - Historic preservation

Rehabilitation of Existing Buildings

Published Regulations and Guidelines

- Structural Regulations approved January, 2004
  Parts 1 and 2, Title 24, CCR (Division VI-R)
- Feasibility Guidelines “Adaptive Reuse: An Option for California’s Schools”
- “Procedural Guidelines for Rehabilitation of Existing Non-Conforming Buildings for Public Schools and California Community Colleges”

Essential Services Buildings Seismic Safety Act

Health and Safety Code Section 16000-16001 says:

- "It is the intent of the Legislature that essential services buildings, which shall be capable of providing essential services to the public after a disaster, shall be designed and constructed to minimize fire hazards and to resist, insofar as practical, the forces generated by earthquakes, gravity, and winds."

Essential Services Buildings (ESB)

- The following facilities are “Essential Services Facilities”:
  - Fire Station
  - Police Station
  - Emergency Operations Center
  - California Highway Patrol Office
  - Sheriff’s Office
  - Emergency Communication Dispatch Center

Essential Services Buildings (ESB)

In accordance with Title 24, Part 1

- DSA is the enforcement agency for State-owned and State-leased Essential Services Facilities
- Plans reviewed and approved (Article 1, Sections 4-206, 4-224)
- Designated Design Professional in General Responsible Charge (Section 4-209)
- Continuous inspection of construction (4-211)
- Verified reports by Design Professional, Project Inspector, Contractor (4-214)

Essential Services Buildings Seismic Safety Act

Performance Level appropriate for State Essential Services Buildings

Higher Performance

Operational Level

Immediate Occupancy Level

Life Safety Level

Collapse Prevention Level

Damage Control Range

Limited Safety Range

Lower Performance

Performance Level appropriate for Schools

Modular School Buildings

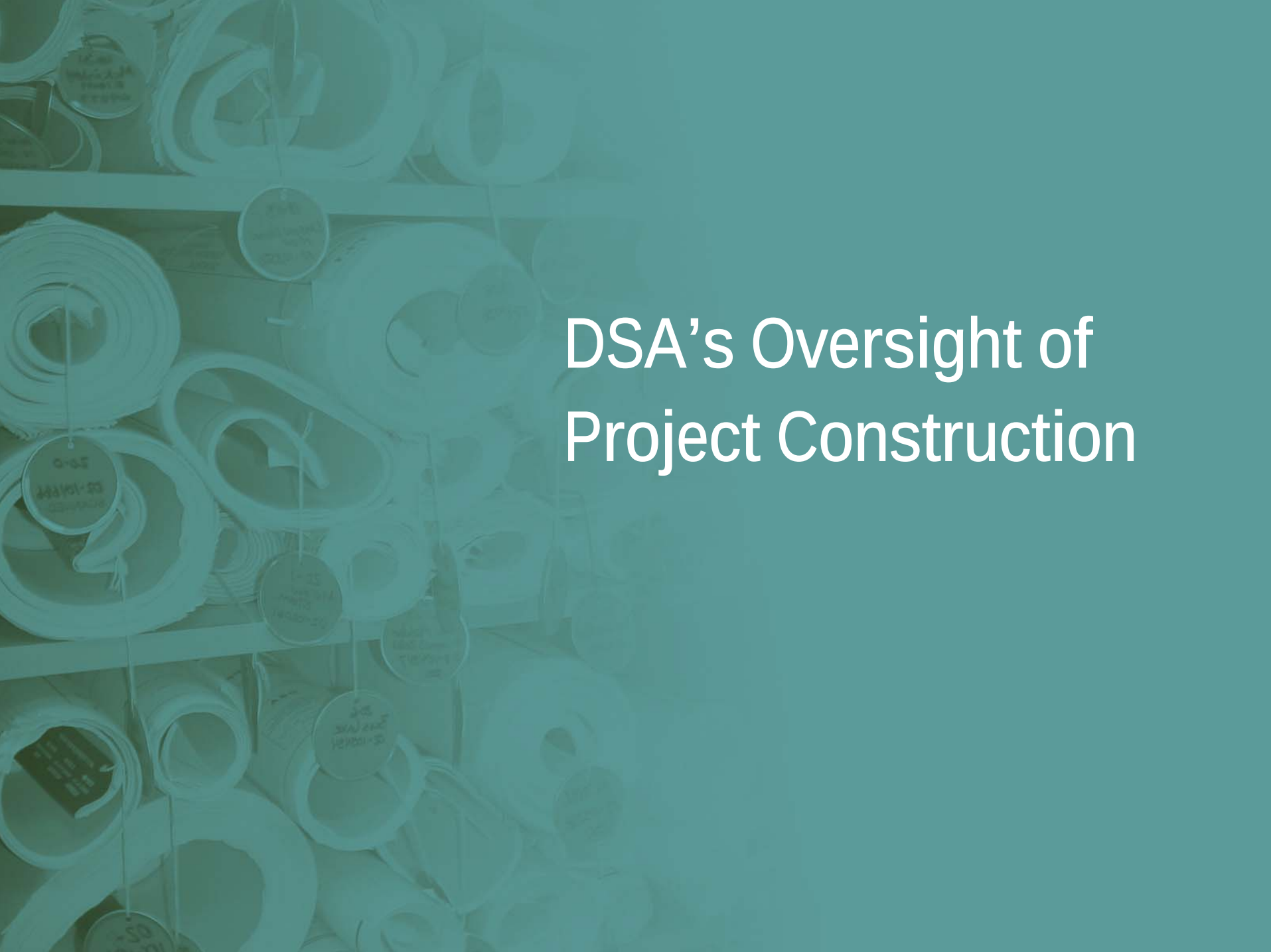
Pre-Check (PC) Approval Process

- Building design approval before specific school campus projects
- Manufacturer is charged for the PC plan review
- Compliance with Title 24 regulations required
- Design Drawings stamped

Modular School Buildings

Over-the-Counter (OTC) Approval

- Unchanged Approved PC drawings are not re-reviewed
- Site conditions are reviewed
  - Access Compliance – path of travel, toilets, etc.
  - Fire & Life Safety – distances between buildings, alarms, etc.
  - Structural Safety – verify snow, wind, seismic loads match, etc.
  - Energy Issues – verify climate zone, building orientation, etc.
- Projects generally reviewed and stamped in one day



DSA's Oversight of Project Construction

The Project Inspector and Test Laboratory

- District and Architect select DSA Certified Project Inspector – Requires DSA Approval
- Project Inspector must be DSA Approved for each individual project – Form DSA-5
- District and Architect must select a DSA approved (LEA) testing laboratory

Approval of the Project Inspector by DSA

- Architect submits Inspector Qualification Record Form DSA-5 to DSA for approval
- DSA Field Engineer evaluates and approves the Project Inspector
- Large projects may require utilization of DSA approved assistant inspector(s)

DSA Oversight of the Construction Process

- Field Engineer facilitates the construction process for code compliance
- Field Engineer makes periodic site visits during construction & reviews reports
- Field Engineer observes Project Inspector performance
- Field Engineer communicates with Architect and District

Project Inspector's Responsibilities

- Provide personal, continuous inspection of all work.
- Maintain complete files of all project documents including change documents.
- Monitor the testing and special inspection programs.
- Notify the contractor of all deviations from DSA approved documents.

Project Inspector's Responsibilities
(continued)

- Provide reports on a semi-monthly basis to the Architect and send copies to the Structural Engineer, DSA and the District.
- File a final verified report.
- The Project Inspector works under the *direction of the Architect* although they are under the *supervision of DSA* and are *paid by the District.*

Architect's Responsibilities

- Evaluate and approve the Project Inspector. Submit form DSA-5 (Inspectors Qualification Record) to DSA at least ten days prior to start of construction.
- Submit form DSA-102 (Contract Information) to DSA indicating the contractor name, test lab name, contract amount and start date.
- Administer the testing program. Investigate and provide directions regarding deficient materials or deviations from the DSA approved documents.

Architect's Responsibilities (continued)

- Direct the Project Inspector.
- Observe the construction.
- Interpret the documents; issue clarifications as necessary in a timely manner.
- Submit all addenda, change orders and deferred approvals to DSA for approval prior to implementation.
- File a final verified report.

District's Responsibilities

- Hire the Architect and their consultants to provide project administration and construction observation (in addition to the design).
- Hire a Project Inspector certified by DSA in the "class" appropriate to the project. Lists of individuals who are certified in each class of construction are available on the DSA website.

District's Responsibilities (continued)

- Hire a LEA approved testing agency to provide materials testing.
- Sign all change orders.
- File a "Notice of Completion" at the end of the project.

Project Certification & Closing

- DSA's final role is the Certification of completed projects.
- Based on the approved plans and observation of the construction by DSA Field Engineers, Design Professionals and the Project Inspectors, DSA will issue a Certification attesting that the construction was in accordance with the minimum requirements established:
  - By law
  - Industry Standards
  - Current building codes
  - Design and specification requirements

The Law

- California Education Code § 17315 (a) requires DSA to issue a letter of certification for a project “when all requirements have been met and documentation to that effect have been provided by the Architect in charge, Inspector of Record, and the School District owning the project”.
- California Education Code § 81147 (a) requires the same for Community College Districts.

Checklist for Closing a Project

- ✓ Final verified reports (DSA-6) approved from Project Inspector, Architect, Engineer and Contractor verifying that all construction complies with DSA approved plans
- ✓ Laboratory final verified report approved
- ✓ Project Inspector Qualification Record (DSA-5) approved
- ✓ Contract information (DSA-102) approved
- ✓ All addenda and change orders approved

Checklist for Closing a Project (continued)

- ✓ All deferred approvals approved
- ✓ Notice of completion approved
- ✓ Special Inspection Verified Reports approved
- ✓ Issues related to construction deficiencies have been resolved
- ✓ Fees paid

Project Certification & Closing

- Once all the documents have been received and accepted, all fees due to DSA are paid and there are no outstanding issues related to construction pending
- *DSA will issue a Certification Letter and close the project file*

Project Inspector Program

- All Project Inspectors for projects under the jurisdiction of DSA must pass the DSA Project Inspector Examination to become certified
- Once certified, individuals must apply to the DSA Regional Office for approval for each specific project
- Exams are given four times per year in both Northern and Southern California
- Project Inspectors must be re-certified every four years

Project Inspector Program (continued)

- Project Inspectors are required to attend mandatory training to obtain re-certification
- Assistant Inspectors are required to attend mandatory training to maintain their Assistant status
- Details on the Project Inspector Program are on the website
- Project Inspector List is on the website

Laboratory Evaluations and Acceptance (LEA) Program:

- Testing laboratory must be employed on every project
- Labs are employed directly by the District
- Labs are evaluated, approved and monitored by DSA
- Approved labs are listed on the DSA website

Laboratory Duties

- Sample and test structural materials (concrete, masonry, etc.)
- Provide special inspectors for certain types of construction (welding, masonry, etc)
- Laboratory engineer evaluates test results and determines whether materials met requirements
- Report test and special inspection results to all parties
- Issue “final verified reports" certifying that all testing and inspection was performed

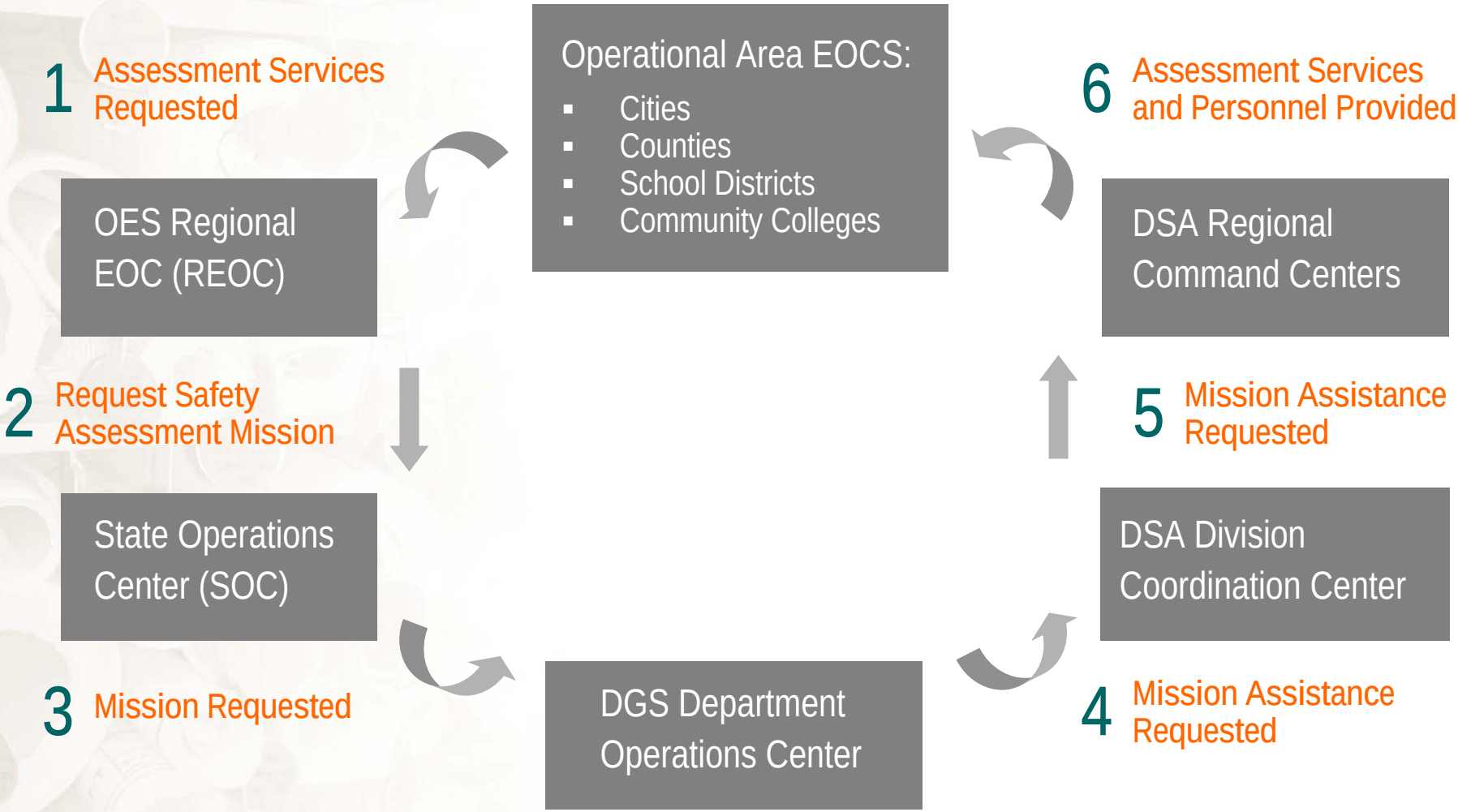
Emergency Operations

- The following flow chart depicts the operational relationships that must be maintained to achieve the anticipated missions forthcoming from the Office of Emergency Services (OES).
- There are two primary missions for the Division of the State Architect pursuant to this plan:

Emergency Operations (continued)

- Ensure continuity of government operations to include: maintain the ability to perform essential organizational functions, pre-delegation of authority, preservation of vital records, ensure the safety and well being of employees, and the integrity of facilities.
- Provide qualified personnel to perform safety assessments of K-12 and Community Colleges, state-owned buildings, and general structural assessments as requested by DGS or OES. DSA has over 100 people certified by OES to perform post disaster response.

Emergency Operations (continued)



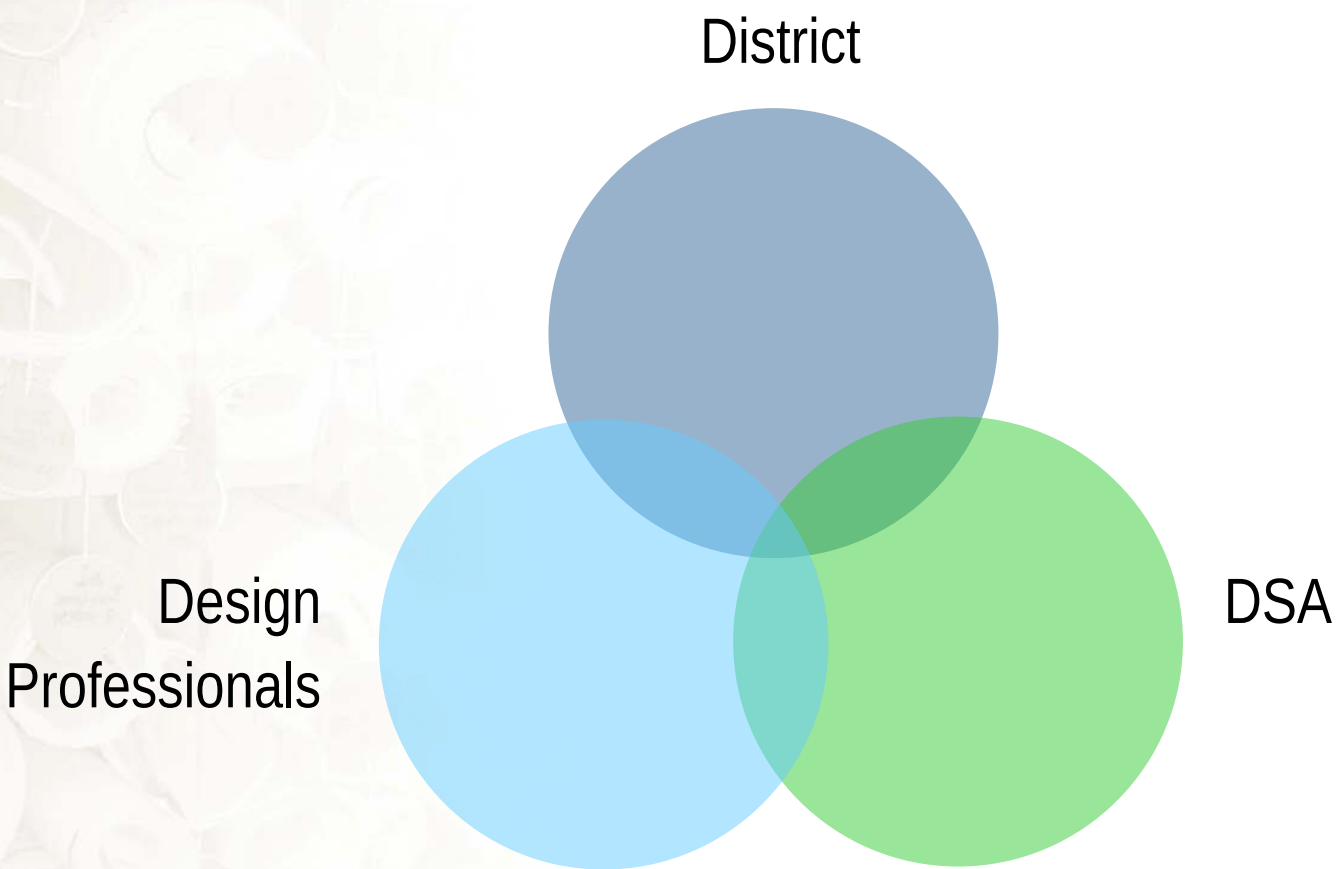
New Directions

- Collaborative Process
- DSA Academy
- Certified Access Specialist Program (CASp)
- Recruitment Plan
- Electronic Plan Review
- Statewide Teams
- Regional Office Reorganization
- Close Out Task Force
- Client Relations

Purpose of Collaborative Process for Project Development and Review

- Ensure public safety of community college and school district facilities through the implementation of a *collaborative, consistent* and *timely* project development and review process in a regulatory environment

Collaborative Partnership



Project Development Process

Planning
(P)

Schematic Design
(SD)

Design Development
(DD)

Construction Documents
(CD)

Intake
(I)

Plan Review
(PR)

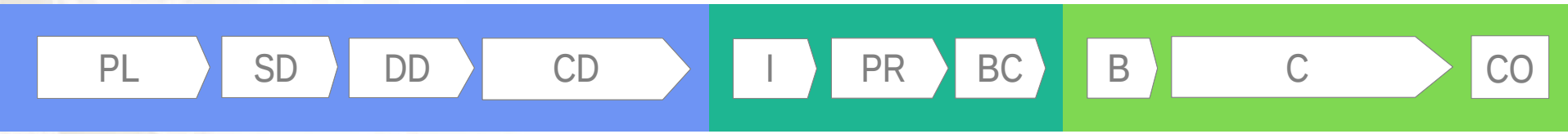
Back Check
(BC)

Bid
(B)

Construction
(C)

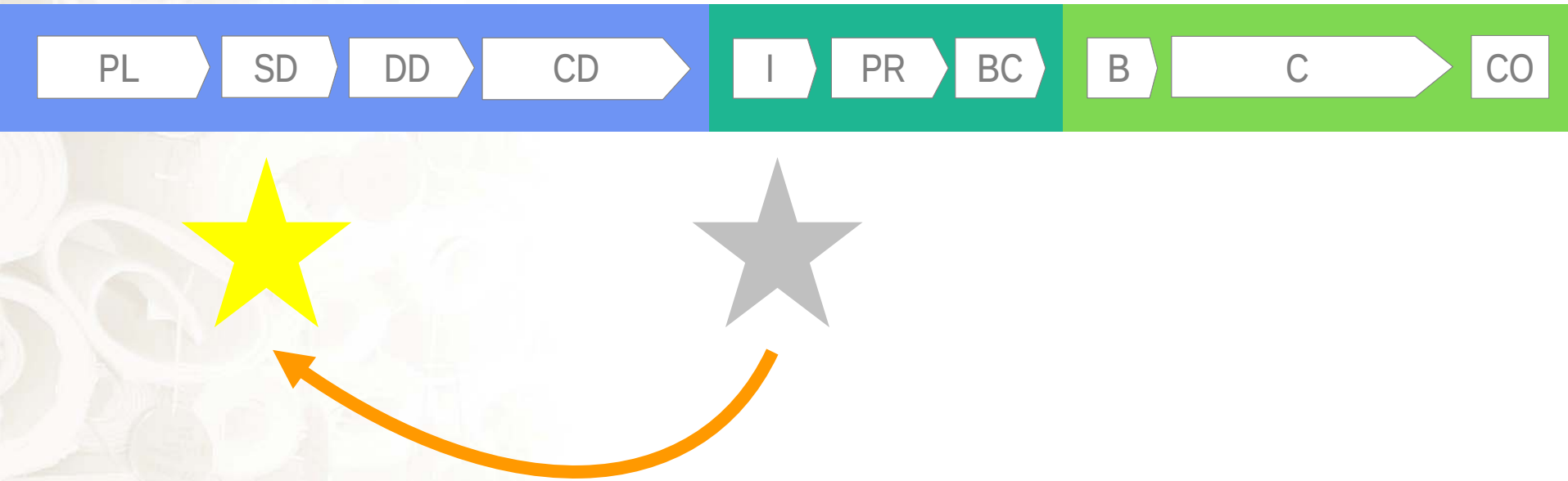
Close Out
(CO)

Traditional Process



- Project submitted at Intake Phase
- Typically, Intake may be first point of communication between all parties—District, Design Professional, and DSA

Collaborative Process



- All parties—District, Design Professional, and DSA—work collaboratively beginning at Schematic Design Phase

Major Features of the Collaborative Process

Collaboration Early in Project Development

- All Parties—DSA, District, Designer—Commit to Technical Requirements and Schedules *throughout* Project Development and Review Phases
- Preliminary Meetings Conducted between All Parties—DSA, District, Designer—to Coordinate Project-Specific Technical Requirements and Schedules
- Statewide/District Capital Outlay Plans Reported to DSA for Workload Forecasting

Major Features of the Collaborative Process

Collaboration Early in Project Development (continued)

- External DSA Plan Review Consultants Secured at District Request and Participate in Preliminary Meetings
- Review and Acceptance of Geotechnical and Geohazards Reports by California Geological Survey and DSA
- Internal Reviews—Constructability, Construction Cost Estimate, Value Engineering—Conducted by District/Designer *and* Incorporated into Project Prior to Project Submittal

Major Features of the Collaborative Process

DSA Project Submittal Inclusive of:

- 100% Complete Signed/Sealed Construction Documents and Specifications
- Certification that Constructability, Construction Cost Estimate, and Value Engineering Results Incorporated into Construction Documents

Benefits of the Collaborative Process

- Time reductions for Intake, Plan Review and Back Check
- Project Schedules Identified and Committed to by All Parties from Project Start
- Technical Issues Identified and Resolved during Design Process
- Design Decisions Committed to Early in Design Process thus Minimizing Schedule Delays and Changes to Technical Requirements

Benefits of the Collaborative Process
(continued)

- Overall Project Development and Review Time Period Reduced thus Minimizing Loss of Dollars to Districts Especially During Inflationary Periods
- Expedited Review and Approval for Projects that need to move quickly (e.g., District Bond Programs)

Next Steps in the Collaborative Process

- Develop Policies, Procedures, Tools, and Systems for Successful CP Implementation
- Conduct Field Tests of Proposed CP and Accompanying Policies, Procedures, Tools and Systems
- Participation in Field Tests to include Select Community College Districts, Design Professionals, and all DSA Regional Offices
- Pursue Statutory Authority Needed to Fully Implement CP for Community College and K12 Districts
- Implement Statewide CP Roll-Out for Community Colleges by January 2007

DSA Academy

Mission

- To promote quality design and construction of educational facilities and other governmental buildings in California by providing centralized training.

Goal

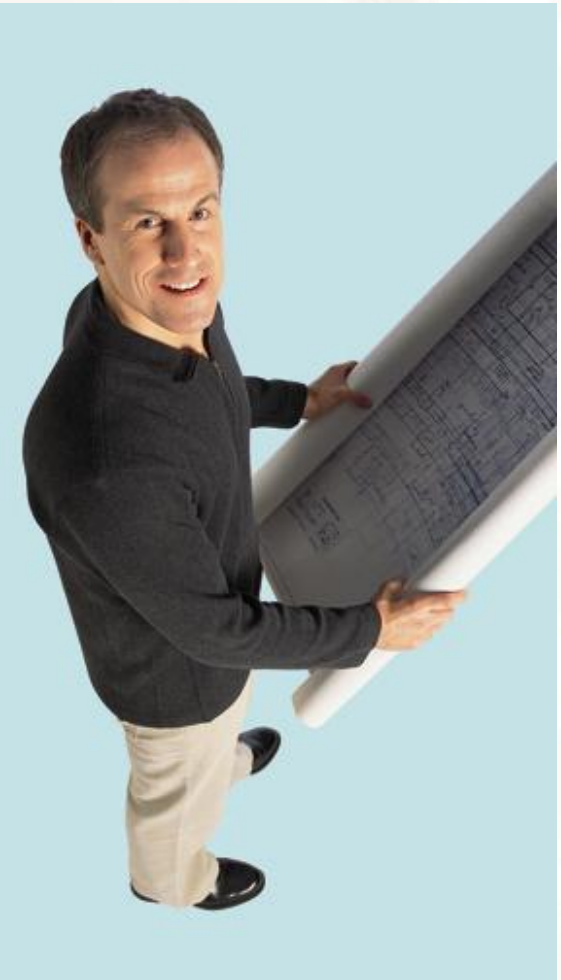
- To serve as a major learning resource for all parties involved in the planning, design and construction process.

DSA Academy (continued)

Objectives

- Through the training, certification and educational programs, the Academy will promote a uniform understanding and knowledge of application of processes, procedures and interpretations of code and regulations needed for successful plan review and approval and construction.
- Serve as a primary source for collaborative policy determination and oversight for educational facilities and other governmental buildings.

DSA Academy — Audiences



- DSA Staff
- Consultant DSA Plan Reviewers
- School District Staff
- Community College Staff
- Architects
- Engineers
- Inspectors
- Project/Construction Managers

Phase I and Phase II

- Training will be held at Northern and Southern California sites
- Classes will range from one to six days depending on the subject matter
- Classes are available to all parties involved in the planning, design and construction process of educational facilities and other governmental buildings in California

Phase I Timeline

Plan Review

- Structural – July 2006 (2 days)
- Access – May 2006 (2 days)
- Fire & Life Safety – August 2006 (3 days)

FEMA 356

- Seismic rehabilitation of existing non-conforming buildings to public use – Sept/Oct 2006

Phase I Timeline

Project Inspector

- Overview – April 2006 (2 days)

Extended Classes to be Phased in Between Fall 2006 & Summer 2007

- Access (1 day)
- Structural (3 days)
- Electrical (2 days)
- Administrative (1 day)
- Fire & Life Safety (2 days)
- Plumbing & Mechanical (3 days)

Phase II Timeline

Accessibility Classes to be Phased in Between Winter 2006 & Summer 2007

- Project Scoping – Determining Applicable Accessibility Requirements (1 day)
- Field Investigations – Facility Surveys, Mitigation Plans & Accessibility Reports (1 day)
- Design Strategies for Accessibility Based on Performance Obligations (2 days)

Phase II Timeline

Accessibility (continued)

- Plan Review of Accessible Features in Construction Documents (1 day)
- Blending Universal Design with Performance Based Design Methods (1 day)

Phase II Timeline

Structural Classes to be Phased in Between Winter 2006 & Summer 2007

- Tests & Inspections Laboratory Evaluations & Acceptance – Spring 2007 (1 day)
- Amendments to the California Building Code – Spring 2007 (6 days)
- Existing Policies & Procedures – Spring 2007 (4 days)

Phase II Timeline

Fire & Life Safety Classes to be Phased in Between Winter 2006 & Winter 2008

- Existing Policies & Procedures (1 day)
- On-Line Electronic Plan Review (3 days)
- Amendments to the California Building Code (2 days)

Certified Access Specialist Program (CASp)

- Senate Bill 262, enacted in late 2003, called for “the State Architect to establish ... a program for state certification of access specialists.”
- DSA convened an advisory committee consisting of a broad spectrum of leaders and key stakeholders in accessibility to develop criteria for certification of access specialists.
- The committee’s major accomplishment was to identify the need for two certification classifications.

Certified Access Specialist Program (CASp)

- One classification will certify licensed architects, emphasizing the need for exemplary design of accessible features and applied principles of universal design.
- The other classification will encompass a range of professional roles, each requiring specialized knowledge, skills and abilities to investigate the degree of accessibility of existing public use facilities.

Certified Access Specialist Program (CASp)

- The advisory committee collaborated with DSA staff architects to identify three program objectives. These goals, for increased Consistency, Clarity and Collaboration, form the underlying principles of the CASp program, and will facilitate accessible construction and the removal of access barriers.
- DSA staff are currently finalizing a complete rulemaking package to establish program regulation, authority and limits.

Certified Access Specialist Program (CASp)

- DSA also assembled Subject Matter Experts for assistance in test development. Their challenge was to articulate the body of knowledge of access specialists and develop hundreds of multiple choice questions for use in several versions of the exam(s).
- The first certification exam for Access Investigators is slated for July/August 2006. Additional certification exams for both Access Investigators and Access Architects will follow in the Fall/Winter 2006 timeframe.

Recruitment Plan

- DSA's ongoing comprehensive plan to fill critical Structural Engineer, Architect, and Fire & Life Safety Officer vacancies

Plan involves:

- Advertisement in major newspapers, trade publications, journals and on the internet
- Direct Mail Campaigns
- Personal Contact

Recruitment Plan

(Plan continued)

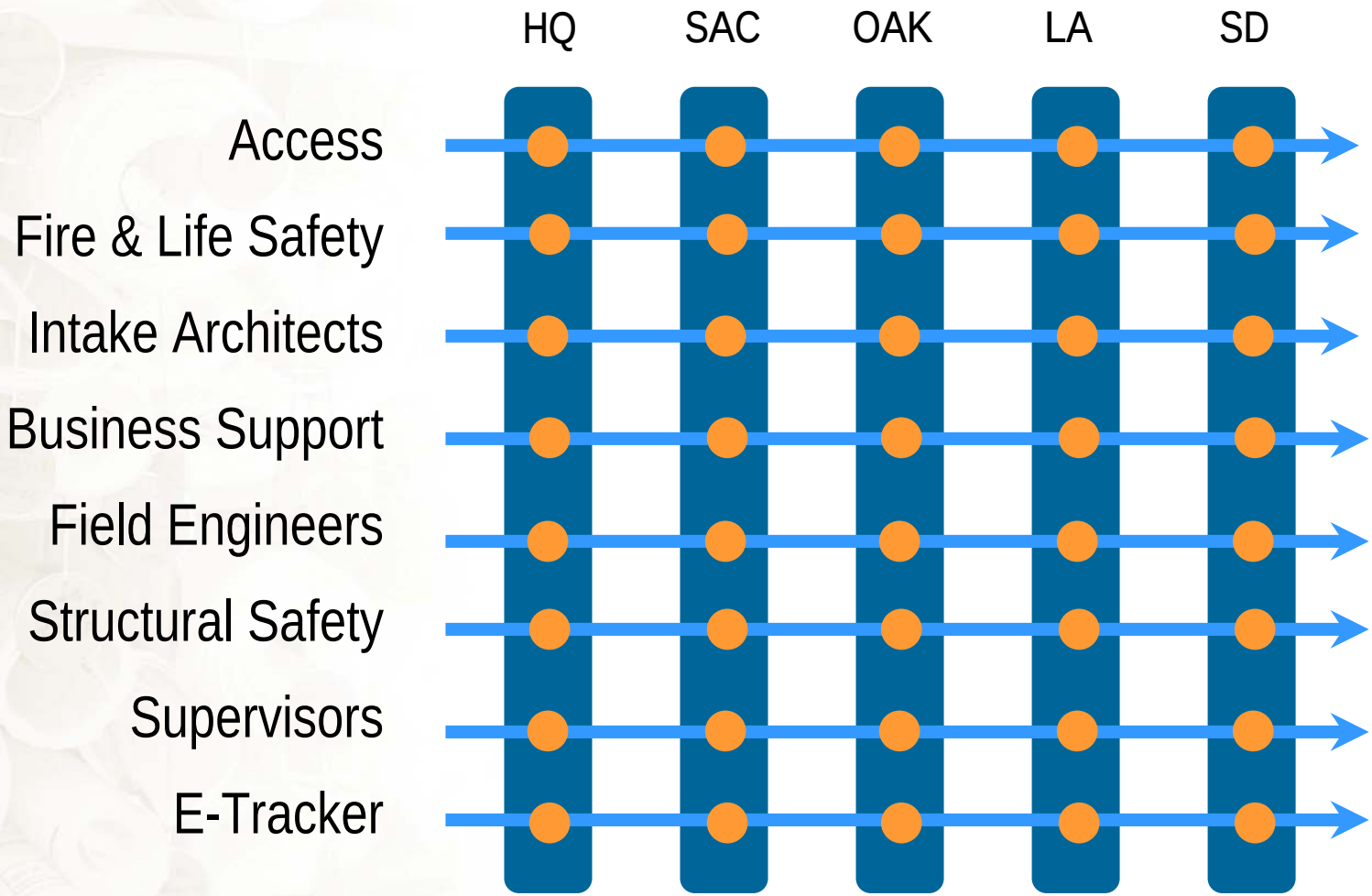
- Trade show booth participation at major industry events, such as:
  - Community Colleges Facility Coalition
  - Engineering and Tech Expo
  - Structural Engineers Association of California
  - California Fire Prevention Institute
  - AIA Central California

DSA Statewide Teams

Purpose:

- To focus on the technical review of plans for consistency, accuracy, timeliness and interpretation of code.

DSA Statewide Teams



Electronic Plan Review

- A process whereby all documents and plans can be submitted and worked on electronically
- Plans are to have this process fully implemented over next few years

Regional Office Reorganization

- DSA is aligning the four Regional Offices to ensure greater consistency in the organization and in the interpretation of code

Close Out Task Force

- A Task Force has been developed to reduce our backlog of open projects

Client Relations

- Plan is to revitalize and cement our communication network with education and business community stakeholders through the DSA Advisory Board and other organizations

DSA's Website — www.dsa.dgs.ca.gov

- Project Status – "TRACKER"
- Project Submittal Guidelines
- DSA's Publications and Forms
- DSA's Project Inspector and Lab Programs
- Certified Access Specialist Program
- DSA Academy
- Contact information

DIVISION OF THE STATE ARCHITECT

A DIVISION OF DGS

Any Questions?

THANK YOU!